posed to said subject, activities and tasks performed by said subject in response to a prompt, or behaviors exhibited by said subject.

31. The system of claim **27**, wherein said processor further instructs said stimulus-emitting component to lengthen or shorten the duration of stimulation in response to said indication of said physiological, cognitive, neural, and/or physical assessment.

32. The system of claim **27**, wherein said physical assessment of the subject is performed to determine hearing of the subject.

33. The system of claim **27**, wherein said system is used to treat, prevent, or mitigate cognitive dysfunction in the subject.

34. The system of claim **27**, wherein said system is used to treat Alzheimer's disease or dementia in the subject, wherein the subject has Alzheimer's disease or dementia.

35. A method for improving cognitive function in a subject in need thereof, comprising:

a) exposing the subject to a series of at least one modality of stimulation at increasing stimulation amplitudes for a first time duration;

b) evaluating a response of the subject to said at least one modality of stimulation after said first time duration;

c) monitoring brain activity of the subject at a second time duration, wherein the second time duration is after the first time duration;

d) evaluating said response of the subject and said brain activity of the subject to determine a range of stimulation amplitudes that result in a steady state evoked response; and

e) adjusting at least one parameter associated with said at least one modality of stimulation so that gamma oscillations are induced in at least one brain region of said subject.

36. The method of claim **35**, wherein the cognitive dysfunction is the result of Alzheimer's Disease or dementia.

37. The method of claim **35**, wherein the at least one modality of stimulation comprises visual stimulation, audio stimulation, or a combination of visual and audio stimulation.

38. The method of claim **35**, wherein said adjusting at least one parameter associated with at least said one modality of stimulation comprises adjusting amplitude, tone frequency, the duration or the duty cycle of said at least one modality of stimulation, or the relationship between the onset of said at least one modality of stimulus.

39. The method of claim **35**, wherein said exposing the subject to a series of at least one modality of stimulation at increasing stimulation amplitudes for a first time duration is repeated for a third time duration, and wherein said evaluating the response of the subject to said at least one modality of stimulation is repeated for a fourth time duration.

40. The method of claim **39**, wherein said exposing the subject to a series of at least one modality of stimulation at increasing stimulation amplitudes for a first time duration is repeated for a fifth time duration, and wherein said evaluating the response of the subject to said at least one modality of stimulation is repeated for a sixth time duration.

41. The method of claim **39**, wherein said at least one modality of stimulation differs in the third time duration than in the first duration.

42. The method of claim **40**, wherein repeating said at least one modality of stimulation at increasing stimulation amplitudes for a fifth time duration comprises a combination of said at least one modality of stimulation used during said first time duration and said third time duration.

43. A method for monitoring and improving neural entrainment in a subject in need thereof, comprising:

a) evaluating a health history factor of a subject, including at least one of physical health, mental health, propensity to comply with treatment, and diet;

b) subjecting said subject to at least one of visual, auditory or peripheral nerve stimulation capable of inducing gamma oscillations in the brain;

c) evaluating the effects of said stimulation using a device capable of monitoring neural oscillations or physiological conditions and a feedback sensor capable of measuring attentiveness of a subject;

d) adjusting, based on said effects and said health history factors, the value of at least one parameter associated with said at least one of visual, auditory, or peripheral stimuli;

whereby the method results in improved entrainment and synchronized gamma oscillations in at least one brain region in said subject.

44. The method of claim **42**, wherein said device capable of monitoring neural oscillations is an electroencephalography (EEG) device.

45. The method of claim **43**, wherein said method is used to treat cognitive dysfunction.

46. The method of claim **44**, wherein said cognitive dysfunction is Alzheimer's Disease or dementia.

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